

Docket No. 740756-2443  
Application No. 10/081,767  
Page 2

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-5 (Cancelled)

6. (Previously Presented) A method of manufacturing a semiconductor device, the method comprising the steps of:

adding a metal element to an amorphous semiconductor film;

first heating the amorphous semiconductor film to form a first crystalline semiconductor film;

irradiating the first crystalline semiconductor film with a laser light to form a second crystalline semiconductor film having a warp;

second heating the second crystalline semiconductor film at a higher temperature than the first heating step to lessen the warp.

7. (Previously Presented) A method of manufacturing a semiconductor device, the method comprising the steps of:

adding a metal element to an amorphous semiconductor film;

first heating the amorphous semiconductor film to form a first crystalline semiconductor film;

irradiating the first crystalline semiconductor film with a laser light to form a second crystalline semiconductor film having a warp;

second heating the second crystalline semiconductor film at a higher temperature than the first heating step to lessen the warp;

etching the second crystalline semiconductor film after the second heating step to form a crystalline semiconductor island.

8. (Previously Presented) A method of manufacturing a semiconductor device, the method comprising the steps of:

adding a metal element to an amorphous semiconductor film;

W680301.1

Docket No. 740756-2443  
Application No. 10/081,767  
Page 3

first heating the amorphous semiconductor film to form a first crystalline semiconductor film;  
irradiating the first crystalline semiconductor film with a laser light to form a second crystalline semiconductor film having a warp;  
etching the second crystalline semiconductor film to form a crystalline semiconductor island;  
second heating the crystalline semiconductor island at a higher temperature than the first heating step to lessen the warp.

Claims 9-16 (Cancelled)

17. (Previously Presented) The method according to claim 6, wherein an annealing furnace is used in the second heating step.
18. (Previously Presented) The method according to claim 6, wherein a lamp light is radiated in the second heating step.
19. (Previously Presented) The method according to claim 6, wherein the second crystalline semiconductor film is heated for 1-30 minutes in the second heating step.
20. (Previously Presented) The method according to claim 18, wherein the lamp light is radiated from at least one of an upper side and a lower side of a substrate.
21. (Previously Presented) The method according to claim 18, wherein the lamp light is radiated from at least one selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon arc lamp, a carbon arc lamp, a high pressure sodium lamp, and a high pressure mercury lamp.
22. (Previously Presented) The method according to claim 18,

W660301.1

Docket No. 740756-2443  
Application No. 10/081,767  
Page 4

wherein the lamp light is radiated with a temperature rising rate or a temperature lowering rate of 30 to 300°C per minute.

Claims 23-24 (Cancelled)

25. (Currently Amended) The method according to claim 6, wherein the metal element comprises at least one selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag, Au, Sn and Sb.

Claims 26-48 (Cancelled)

49. (Previously Presented) The method according to claim 6, wherein the laser light is radiated from one selected from the group consisting of a pulse oscillation type excimer laser, a pulse oscillation type YAG laser, a pulse oscillation type YVO4 laser, a pulse oscillation type YAlO3 laser, a pulse oscillation type YLF laser, a continuous emission type excimer laser, a continuous emission type YAG laser, a continuous emission type YVO4 laser, a continuous emission type YAlO3 laser, and a continuous emission type YLF laser.

50. (Previously Presented) The method according to claim 6, wherein the laser light has of a rectangular shape and a linear shape on an irradiation plane.

51. (Previously Presented) The method according to claim 6, wherein the amorphous semiconductor film is formed through one of a sputtering method and an LPCVD method.

52. (Previously Presented) The method according to claim 6, wherein the amorphous semiconductor film is formed through a plasma CVD method at a temperature in a range of 400°C or higher.

W680301.1

Docket No. 740756-2443  
Application No. 10/081,767  
Page 5

53. (Previously Presented) The method according to claim 6,  
wherein the semiconductor device is one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a front type projector, a rear type projector, a mobile telephone, a mobile book, and a display.

54. (Previously Presented) The method according to claim 7,  
wherein the laser light is radiated from one selected from the group consisting of a pulse oscillation type excimer laser, a pulse oscillation type YAG laser, a pulse oscillation type YVO4 laser, a pulse oscillation type YAlO3 laser, a pulse oscillation type YLF laser, a continuous emission type excimer laser, a continuous emission type YAG laser, a continuous emission type YVO4 laser, a continuous emission type YAlO3 laser, and a continuous emission type YLF laser.

55. (Previously Presented) The method according to claim 7,  
wherein the laser light has one of a rectangular shape and a linear shape on an irradiation plane.

56. (Previously Presented) The method according to claim 7,  
wherein an annealing furnace is used in the second heating step.

57. (Previously Presented) The method according to claim 7,  
wherein a lamp light is radiated in the second heating step.

58. (Previously Presented) The method according to claim 7,  
wherein the second crystalline semiconductor film is heated for 1-30 minutes in the second heating step.

59. (Previously Presented) The method according to claim 57,  
wherein the lamp light is radiated from at least one of an upper side and a lower side of a substrate.

W680301.1

Docket No. 740756-2443  
Application No. 10/081,767  
Page 6

60. (Previously Presented) The method according to claim 57,  
wherein the lamp light is radiated from at least one selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon arc lamp, a carbon arc lamp, a high pressure sodium lamp, and a high pressure mercury lamp.

61. (Previously Presented) The method according to claim 57,  
wherein the lamp light is radiated with a temperature rising rate or  
a temperature lowering rate of 30 to 300°C per minute.

62. (Previously Presented) The method according to claim 7,  
wherein the amorphous semiconductor film is formed through one of a sputtering  
method and an LPCVD method.

63. (Previously Presented) The method according to claim 7,  
wherein the amorphous semiconductor film is formed through a plasma CVD method  
at a temperature in a range of 400°C or higher.

64. (Previously Presented) The method according to claim 7,  
wherein the metal element comprises at least one selected from the group consisting  
of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag, Au, Sn and Sb.

65. (Previously Presented) The method according to claim 7,  
wherein the semiconductor device is one selected from the group consisting of a  
personal computer, a video camera, a mobile computer, a goggle type display, a player using  
a recording medium, a digital camera, a front type projector, a rear type projector, a mobile  
telephone, a mobile book, and a display.

66. (Previously Presented) The method according to claim 8,  
wherein the laser light is radiated from one selected from the group consisting of a  
pulse oscillation type excimer laser, a pulse oscillation type YAG laser, a pulse oscillation  
type YVO4 laser, a pulse oscillation type YAlO3 laser, a pulse oscillation type YLF laser, a

W680301.1

Docket No. 740756-2443  
Application No. 10/081,767  
Page 7

continuous emission type excimer laser, a continuous emission type YAG laser, a continuous emission type YVO4 laser, a continuous emission type YAlO3 laser, and a continuous emission type YLF laser.

67. (Previously Presented) The method according to claim 8, wherein the laser light has one of a rectangular shape and a linear shape on an irradiation plane.
68. (Previously Presented) The method according to claim 8, wherein an annealing furnace is used in the second heating step.
69. (Previously Presented) The method according to claim 8, wherein a lamp light is radiated in the second heating step.
70. (Previously Presented) The method according to claim 8, wherein the crystalline semiconductor island is heated for 1-30 minutes in the second heating step.
71. (Previously Presented) The method according to claim 69, wherein the lamp light is radiated from at least one of an upper side and a lower side of a substrate.
72. (Previously Presented) The method according to claim 69, wherein the lamp light is radiated from at least one selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon arc lamp, a carbon arc lamp, a high pressure sodium lamp, and a high pressure mercury lamp.
73. (Previously Presented) The method according to claim 69, wherein the lamp light is radiated with a temperature rising rate or a temperature lowering rate of 30 to 300°C per minute.

W680301.1

Docket No. 740756-2443  
Application No. 10/081,767  
Page 8

74. (Previously Presented) The method according to claim 8,  
wherein the amorphous semiconductor film is formed through one of a sputtering  
method and an LPCVD method.

75. (Previously Presented) The method according to claim 8,  
wherein the amorphous semiconductor film is formed through a plasma CVD method  
at a temperature in a range of 400°C or higher.

76. (Previously Presented) The method according to claim 8,  
wherein the metal element comprises at least one selected from the group consisting  
of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag, Au, Sn and Sb.

77. (Previously Presented) The method according to claim 8,  
wherein the semiconductor device is one selected from the group consisting of a  
personal computer, a video camera, a mobile computer, a goggle type display, a player using  
a recording medium, a digital camera, a front type projector, a rear type projector, a mobile  
telephone, a mobile book, and a display.

78. (Previously Presented) A method of manufacturing a semiconductor device,  
the method comprising the steps of:  
irradiating a semiconductor film with a laser light to improve crystallinity of the  
semiconductor film wherein a warp is created in the semiconductor film due to the irradiating  
with the laser light;  
heating the semiconductor film in order to decrease the warp; and  
etching the semiconductor film to form at least one semiconductor island after the  
heating step.

79. (Previously Presented) The method according to claim 78,  
wherein the semiconductor film comprises amorphous silicon.

W680301.1

Docket No. 740756-2443  
Application No. 10/081,767  
Page 9

80. (Previously Presented) The method according to claim 78, wherein the semiconductor film is crystallized before the irradiating with the laser light.

81. (Previously Presented) The method according to claim 78, wherein the semiconductor film is crystallized before the irradiation with the laser light where the crystallization of the semiconductor film is promoted by adding a metal element thereto.

82. (Previously Presented) A method of manufacturing a semiconductor device, the method comprising the steps of:  
irradiating a semiconductor film with a laser light to improve crystallinity of the semiconductor film wherein a warp is created in the semiconductor film due to the irradiating with the laser light;  
etching the semiconductor film to form at least one semiconductor island; and  
heating the semiconductor film in order to decrease the warp after the etching step.

83. (Currently Amended) The method according to claim ~~78~~ 82, wherein the semiconductor film comprises amorphous silicon.

84. (Currently Amended) The method according to claim ~~78~~ 82, wherein the semiconductor film is crystallized before the irradiation with the laser light.

85. (Currently Amended) The method according to claim ~~78~~ 82, wherein the semiconductor film is crystallized before the irradiation with the laser light where the crystallization of the semiconductor film is promoted by adding a metal element thereto.

W680301.1